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THE INSECT PEST SURVEY
BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR APRIL, 1929.

The Mediterranean fruit fly, an extremely destructive pest of fruits and vegetables, was discovered at Orlando, Florida, April 6, and is now known to be present at points in six counties in east-central Florida. A resume of the situation appears in this number of the Bulletin.

Wireworms are attracting considerable attention this spring throughout practically the entire United States, reports having been received from New Jersey to South Carolina and westward to Idaho and California. In many cases the wireworms are reported as considerably more abundant than usual, although little damage has been occasioned up to this time.

The Asiatic beetle was found approaching the surface of the ground on April 5, about two weeks earlier than usual, in Connecticut, and was apparently more abundant.

Although reports of cutworms have been received from practically all of the country south of Connecticut, the worms do not, on the whole, seem to be abnormally numerous except in restricted districts.

The Hessian fly started emerging in southern Illinois during the last week in March and the first week in April. No reports of unusual abundance have been received up to May 1.

From present indications the chinch bug is still subnormal in abundance. On March 26 a flight of adults was observed in Christian County, Illinois.

A rather unusual infestation was reported from North Carolina where the leaf-footed bug (Leptoglossus phyllopus L.) was feeding on the developing grains in wheat heads on land where this insect destroyed the seed crop of cowpeas last fall.

Aphids on grain and forage crops in western Washington and Oregon are remarkably scarce this spring. For the first time in the past 12 years it has been difficult to obtain specimens of any of the important species during early April.

Orchard aphids began hatching unusually early this year in the New England States. The earliest observation of eggs hatching in Massachusetts was made on March 31. The aphids are apparently abnormally abundant in

New England and the Middle Atlantic States and more abundant than for the past several years in the Southeastern and East Central States.

The earliest emergence of the codling moth this year was reported from Georgia April 4. South Carolina reported the earliest emergence as April 8. Although reported as very abundant from several States, conditions in general are apparently about normal.

The eastern tent caterpillar is apparently decreasing in numbers in the New England and Middle Atlantic States and increasing from Virginia southward.

The San Jose scale is reported as from scarce to moderately abundant throughout practically the entire country, although there seems to be a tendency for it to increase slightly in Massachusetts and Illinois. The oyster-shell scale is increasing in Illinois.

The first plum curculio of the season in the Middle Atlantic States was reported from Delaware April 4, and from the East Central States, in Illinois, on April 6. This insect seems to be abnormally abundant from the Middle Atlantic States southward to Georgia. In the latter State the infestation appears to be the heaviest since the serious outbreak in 1921.

The oriental fruit moth began emerging April 4 in Delaware, nearly three weeks ahead of the first emergence for the past four years. The first twig injury was observed in Georgia three weeks earlier than last year, this injury being observed April 4 this year and April 25 last year.

The vegetable weevil has been unusually abundant in the southern half of Mississippi, in many instances seriously damaging a great variety of truck crops.

During the last week in March the harlequin bug was reported as seriously damaging truck in Delaware. On March 29 it was very numerous in eastern Virginia, and a very heavy infestation was under way in the Chadbourn district of North Carolina by that time. Reports of serious infestations were also received from South Carolina and Mississippi.

The heaviest infestation of the strawberry weevil in the past 10 years was under way during the last week of March in the Chadbourn district of North Carolina, and by March 27 over one-fourth of the crop had been destroyed in some plantings.

The Mexican bean beetle appeared April 19, which is 11 days earlier than last year, in South Carolina. It was observed feeding on this date in North Carolina, while in Mississippi the first adults were observed April 22.

The bean leaf beetle is seriously damaging beans in South Carolina, Georgia, and Mississippi. In the latter State 75 per cent of some fields has been destroyed.

The seed corn maggot in general, is not abnormally abundant over the Eastern States, but in the Norfolk trucking section it has occasioned serious losses.

The gray sugarcane mealybug (Pseudococcus boninsis Kuwana) is recorded for the first time from Mississippi, where it was collected late in March at Melton.

Very serious injury to forest nursery seedlings (coniferous evergreens) by the strawberry root weevil is reported from Michigan. This is the first record of this kind in Michigan in the past 30 years.

A very heavy infestation of pine by the sawfly Neodiprion dyari Roh. is reported from Madison County, North Carolina.

Buffalo gnats are again appearing in the Yazoo region of Mississippi where reports of fatalities among mules and horses are already being received. A similar outbreak occurred last year in this region.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR APRIL, 1929.

The field and garden crops of Canada, during 1928, were comparatively free from severe losses due to insect depredations.

The outbreak of the Bertha armyworm, Berathra configurata Walk., during 1928, affected Manitoba, Saskatchewan, Alberta, and a large part of British Columbia, causing losses principally to sweet clover, alfalfa, flax, and garden crops. Destructive outbreaks of this insect are of recent date.

Indications point to a repetition during 1929 of the outbreak of the bronzed cutworm, Nephelodes emmedonia Gram., in the Tantramar Marshes, New Brunswick, where last year it destroyed 2,000 acres of hay crop.

Grasshoppers are reported as increasing in sandy localities of Manitoba, and also in the Bulkley Valley, Nicola Valley, and the Chilcotin and Fraser River areas, in British Columbia.

Wireworms continue to be the most serious insect pest of the prairies. In Saskatchewan the loss of the wheat crop in 1928 was estimated at nearly \$4,000,000.

The wheat stem sawfly, Cephus cinctus Nort., was at its lowest ebb for some years, during 1928. The loss occasioned by this insect, however, was estimated at well over \$4,000,000, in Saskatchewan alone.

The Colorado potato beetle is reported as decidedly on the increase in Manitoba and elsewhere in the Prairie Provinces.

From present indications it would appear that the European apple sucker, Psylla mali Schm., will be somewhat more prevalent in the Annapolis Valley, Nova Scotia, during 1929 than last year.

In British Columbia, the most active outbreaks of forest insects in the interior at the present time consist of the bark beetles, Dendroctonus monticolae Hopk., in lodgepole pine, and D. pseudotsugae Hopk., in Douglas fir. In addition there is the periodical outbreak of the spruce budworm, Harmoloba fumiferana Clem., in the Cariboo district, and, on the Pacific coast this species and the hemlock looper, Ellopiia fiscellaria Guen. are the most troublesome defoliators.

The fall canker worm, Alsophila pometaria Harr., is on the increase in Manitoba. Damage to shade tree belts is expected during 1929.

The species Ratodes angustiorana Haw. was recorded for the first time in North America in 1928, in the gardens of the Parliament Buildings, Victoria, British Columbia, causing damage to pyramidal yews. Indications of its presence were also seen at Oak Bay.

There is every indication of a more extensive outbreak of the lime-tree looper, Erannis tiliaria Harr. in 1929, in the Brandon Hills, Manitoba, where last year a variety of trees and shrubs were severely attacked by this species.

Cases of tick paralysis affecting humans have been reported from Rawleigh and Wellington, British Columbia. The wood tick, Dermacentor venustus Banks, was the species responsible.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Georgia M. S. Yeomans (April 22): Grasshoppers are moderately abundant on peaches.
- South Carolina M. H. Brunson (April 20): Grasshoppers have been damaging young tobacco plants in a field at Lake City but in general they are scarce.
- Kentucky H. Garman (April): Grasshoppers are moderately abundant.

WIREWORMS (Elateridae)

- New Jersey T. J. Headlee (April 22): Wireworms are moderately abundant.
- Indiana J. J. Davis (April 27): Wireworms are moderately abundant in low areas throughout the State.
- Illinois W. P. Flint (April 22): Wireworms are moderately abundant.
- Kentucky H. Garman (April): Wireworms are moderately abundant.
- Missouri L. Haseman (April 24): One species of click beetle, identity unknown, has been quite abundant under codling moth bands since the middle of April. Wireworms moderately abundant at Columbia.
- Alabama O. T. Deen (March 19): On this date adults of *Heteroderes* and other species of click beetles were found feeding on old sweet potatoes which were scattered around in an old dirt storage bank at Theodore. Numerous other inspections in this vicinity failed to locate adults at any other place. The adult click beetles usually emerge in this section much later than the above date.
- Mississippi R. W. Harned (April 28): J. P. Kislanko reported on April 19 that wireworms and *Diabrotica* larvae were so abundant in a 1-acre field of watermelons at Wiggins that practically all the plants were ruined.
- Idaho Claude Wakeland (April 22): Wireworms, *Pheletes occidentalis* Cand., just becoming active at Parma. Lately emerged adults just becoming active.
- Texas F. L. Thomas (April 25): These insects seem to be unusually abundant in the vicinity of College Station this year. Corn has been replanted in several fields. This is the first time such a complaint has been received in the five years I have been here.
- California R. E. Campbell (April 1): Potato seed pieces planted about March 1 became so badly damaged by *Pheletes californicus* Mann. that treatment was required at Redlands. After being in the ground 6 days, the pieces averaged 6 worms apiece.

M. W. Stone (April 1): Adults of Phaeletes californicus were first collected on March 4 and by April 1 were very abundant. First eggs were laid by caged females on March 27 at Alhambra.

South Carolina M. H. Brunson (April 20): Horistonotus uhlerii Horn is moderately abundant in Hampton and bordering counties.

WHITE GRUBS (Phyllophaga spp.)

Connecticut W. E. Britton (April 23): Moderately abundant and occasionally abundant.

Virginia P. J. Chapman (April 22): White grubs are scarce in eastern Virginia.

Indiana J. J. Davis (April 26): May beetles were out on the night of April 6 and again on the 7th at Lafayette. This is an unusually early record.

Illinois W. P. Flint (April 22): White grubs are scarce.

Kentucky H. Garman (April): White grubs are moderately abundant.

Missouri L. Haseman (April 24): First June beetles to appear on the wing showed up at Columbia April 20, though the beetles are abundant just under the surface of the soil and the grub worms are unusually abundant.

Kansas J. W. McColloch (April 22): The first flight of May beetles, Phyllophaga rubiginosa Lec., occurred on the night of April 6. No further flights occurred until April 18.

ASIATIC BEETLE (Anomala orientalis Waterh.)

Connecticut W. E. Britton (April 26): Grubs were near the surface on April 5, some two weeks earlier than usual, at New Haven and West Haven. More abundant, compared with average year.

CUTWORMS (Noctuidae)

Connecticut W. E. Britton (April 23): Peridroma saucia Hbn. was observed this spring moderately abundant.

New Jersey T. J. Headlee (April 22): Cutworms are scarce.

Virginia P. J. Chapman (April 22): Cutworms are scarce in eastern Virginia.

North Carolina C. H. Brannon (April 19): Cutworms are moderately abundant at Raleigh.

South Carolina M. H. Brunson (April 20): Cutworms have been extensively damaging transplanted tobacco plants at Lake City but in general are scarce.

- Illinois W. P. Flint (April 22): Cutworms are moderately abundant.
- Kentucky H. Garman (April): Cutworms are very abundant.
- Missouri L. Haseman (April 24): Scarce at Columbia.
- Mississippi R. W. Harned (April 22): Cutworms, tentatively identified as Feltia annexa Treit., were reported as causing serious injury in tomato plant beds at Brookhaven on April 15.
- Texas F. L. Thomas (April 25): Cutworms at College Station are moderately abundant, also abundant in the Rio Grande Valley.
- Arizona O. L. Barnes (February 27): Feltia annexa Treit. feeding on cabbage heads on a farm 2 miles northwest of Phoenix. Little damage.

CEREAL AND FORAGE-CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- New Jersey H. B. Weiss (April 20): This insect is scarce in the northwestern part of the State.
- Delaware H. L. Dozier (April 20): The Hessian fly is moderately abundant in Delaware.
- Indiana J. J. Davis (April 27): The Hessian fly is moderately abundant to very abundant in southwestern Indiana.
- Illinois W. P. Flint (April 16): Adults of the Hessian fly started emerging in southern Illinois during the first warm period the latter part of March and first of April. There are still some flies to emerge in the central part of the State. It is too early as yet to make any statement regarding the intensity of the spring infestation. (April 22): This insect is moderately abundant.
- Kentucky H. Garman (April): The Hessian fly is now scarce. It was formerly very common.
- Missouri L. Haseman (April 24): Moderately abundant at St. Louis and Elsberry and scarce at Columbia.

CHINCH BUG (Blissus leucopterus Say)

- Illinois W. P. Flint (April 22): The chinch bug is scarce.
- J. H. Bigger (March 26): First observed flight of adults in

Christian County. Probably flight occurred a few days previous but no reporter was in this section at that time.

Kentucky

H. Garman (April): The chinch bug is scarce.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

North Carolina W. A. Thomas (April 5): This insect is now appearing in fairly large numbers at Chadbourn on heading wheat, where they seem to be feeding on the developing grain within the heads. In the same area where they are now feeding on wheat their attacks on young cowpea pods were so serious last fall that practically no seed matured.

Georgia

T. L. Bissell (April 4): Found two adults between leaf bracts of yellow-flowered thistle. (April 20): Adults commonly seen mating on thistle stalks at Milner.

ENGLISH GRAIN APHID (Macrosiphum granarium Kirby and
APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Oregon

L. P. Rockwood (April 5): The grain aphids are remarkably scarce at this time in Washington and Clackamas Counties. Four or five Macrosiphum granarium were swept in one wheat field after considerable sweeping. None found in other fields swept. March and April were theoretically favorable to aphids. The precipitation was less than normal but apparently few survived the winter.

SEED SPRINGTAIL (Onychiurus pseudarmatus Folsom)

New Mexico

J. R. Eyer (April 27): At Raton this insect is injurious to newly sown wheat.

CORN

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Rhode Island

A. E. Stene (April 20): The European corn borer is moderately abundant in most places but very abundant in a few.

New York

P. J. Parrott (April 20): Moderately abundant in this section (Geneva).

CORN EAR WORM (Heliothis obsoleta Fab.)

Texas

F. L. Thomas (April 25): The corn ear worm at College Station is very abundant. It appears to be moderately abundant at all times, but this year more than usual has been observed.

SMARTWEED BORER (Pyrausta aineliei Heinrich)

Delaware

H. L. Dozier (April 10): Specimens determined by Carl Heinrich as the smartweed borer were brought in from near Delmar during March with the report that they were very abundant in old corn-

stalks in the field. Their work was typical of that of the European corn borer.

Nebraska M. H. Swenk (January 1-April 15): The smartweed borer was found boring cornstalks, and subsequently sent in for identification from Gage County on January 17 and from Thayer County on April 12.

STALK BORER (Papaipema nebris nitela Guen.)

Kentucky H. Garman (April): The stalk borer is moderately abundant.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

New York P. J. Parrott (April 20): Too early for the seed corn maggot in this section (Geneva).

Pennsylvania T. L. Guyton (April 22): The seed corn maggot is absent in this State.

Virginia P. J. Chapman (April 22): Very abundant in eastern Virginia.

North Carolina C. H. Brannon (April 19): The seed corn maggot is moderately abundant at Lumberton.

Kentucky H. Garman (April): The seed corn maggot is scarce, taking the State as a whole.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Louisiana W. E. Haley (April 5): Larvae of the fall armyworm, one-half or three-quarters grown, were found in Terrebonne Parish.

SEED CORN BEETLE (Agonoderus pallipes Fab.)

Nebraska M. H. Swenk (January 1 - April 15): Several correspondents reported great numbers of the seed corn beetle appearing during the first week in April. They were attracted to lights in abundance during that week.

Kansas J. W. McColloch (April 4): Beetles of this species were swarming in the air just before sundown on April 4 at Lovewell.

CORN BILLBUG (Sphenophorus aequalis Gyll.)

Georgia O. I. Snapp (April 20): A heavy infestation in corn planted in low land in Montezuma.

CLOVER, ALFALFA, AND VETCH

PEA APHID (Illinoia pisi Kalt.)

Virginia G. E. Gould (April 18): The pea aphid was common on alfalfa throughout the winter and increased this spring to such an extent

as to cause injury at Norfolk, Princess Anne County. At present it appears to be held in check by parasites and a fungus.

The winged forms of the pea aphid were first found on peas on March 27. Two weeks later the winged individuals were quite numerous and on April 18 the aphids were causing slight damage.

Arizona

O. L. Barnes (April 23): On April 10 and 13, the pea aphids were found in several alfalfa fields west and south of Phoenix. The abundance varies widely, but in some fields the infestation is high, especially in localized areas. However, later observations show the numbers of the insects to be more uniformly distributed over the fields.

Oregon

L. P. Rockwood (April 5): Pea aphids on vetch are practically nonexistent in Washington and Clackamas Counties to date, according to our observations. We finally swept two immature specimens from vetch seed August 15, which would ordinarily be well infested. Pea aphids have not been so scarce at this time of year in this area in the 10 or 12 years we have been located here.

COWPEA APHID (Aphis medicaginis Koch)

Arizona

O. L. Barnes (March 15): Very abundant on clover in at least one field west of Phoenix.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Pennsylvania

F. B. Fetrow (April 5): Larvae attacking clover in lawn and doing considerable damage.

Missouri

L. Haseman (April 24): Larvae feeding abundantly though not attracting farmer's attention. (K. C. Sullivan.)

RANGE GRASS

NEW MEXICO RANGE CATERPILLAR (Hemileuca olivia Ckll.)

New Mexico

J. R. Eyer (April 27): At Roy these insects appear very abundant. Egg masses on many trees and shrubs this winter.

F R U I T I N S E C T S

APPLE

APHIDS (Aphididae)

Massachusetts

A. I. Bourne (April 22): Orchard plant lice began hatching early this season. They reflected the abnormally high temperatures of late March and early April. Prof. Whitcomb in Middlesex County noted the first hatching on March 31. We noted hatching here at Amherst on April 3 to 5. On the latter date the lice

were out in large numbers. Plant lice are very abundant this season generally over the State, and rather more abundant than normal, in marked contrast to a year ago when throughout the State they were practically absent. The low temperature and snow subsequent to their hatching have not appeared here at the College or to the east of us to have caused any significant mortality. In the hill orchards to the west, where conditions were much more severe, there is considerable evidence of high mortality. This point can not be accurately checked, however, until seasonable temperatures are again encountered and we get back to normal conditions.

Delaware

H. L. Dozier (April 20): Fruit aphids, especially the green apple aphid, are extremely abundant. Eggs have been hatching for several weeks.

Virginia

W. J. Schoene (April 20): Dr. W. S. Hough reports from the Winchester Laboratory as follows: The apple grain aphid was observed hatching on March 16 and by March 21 the buds were showing a small amount of green and eggs were hatching in large numbers. The green aphid was abundant everywhere March 23. The first rosy apple aphids were observed hatching March 23, and on April 6 we found a few leaves which had been curled. The first adult stem mother was found April 7 and the first individuals of the second generation were found April 8. Syrphid flies and adult lady beetles are very abundant in certain orchards.

At Blacksburg the aphids are more numerous than for some years. There is a good sprinkling of rosy aphids and a heavy infestation of grain aphids. The predators are also present in large numbers.

South Carolina

F. Sherman (March 27): Aphids have been reported on roses, and inquired about with reference to other plants.

Illinois

J. H. Bigger (March 25): Aphids hatching in very great numbers in Morgan and Scott Counties March 23 and 25. Up to date only grain aphids seen. Numbers hatched indicated that very few eggs remain and other species will probably be in small numbers.

Kentucky

H. Garman (April): Apple aphids are very abundant.

Missouri

L. Haseman (April 24): Apple leaf aphid moderately abundant at Columbia.

APPLE APHID (Aphis pomi DeG.)

New Hampshire

P. R. Lowry (April 23): The green apple aphid is moderately abundant at Durham, and very abundant at Nashua where the young stem mothers were common April 12.

Connecticut

Phillip Garman (April 24): Aphids hatched early owing to a warm spell in early April in New Haven County, but have not in-

creased since, and in some localities have decreased on account of unfavorable weather conditions.

- New York W. E. Britton (April 23): Very abundant in Hamden and New Haven.
- New York P. J. Parrott (April 20): Very abundant in the Geneva section of New York.
- New Jersey T. J. Headlee (April 22): This insect is moderately abundant.
- Indiana J. J. Davis (April 26): Apple aphids are abundant on apple in many sections of the State. On April 3 stem-mothers were observed at Vincennes giving birth to their first young.
- Illinois W. P. Flint (April 22): The apple aphid is very abundant.
- Missouri L. Haseman (April 24): During April we usually have in central Missouri a serious epidemic of this louse but it has been unusually scarce this spring.
- Washington E. J. Newcomer (April 22): Has been more abundant than usual this year.

ROSY APPLE APHID (Anuraphis roseus Baker)

- Connecticut W. E. Britton (April 23): Very abundant in Hamden and New Haven.
- New York P. J. Parrott (April 10): As a result of high temperatures last Saturday, Sunday, and Monday, many of the apple buds show heavy infestation of aphids and in some orchards approximately 40 per cent of the nymphs at the ends of the buds are rosy aphids. Last night the temperature dropped to 28 degrees and I am not certain what has been the effect on the aphids. However, we have extensive experiments under way and because of our experimental activities I am sincerely hoping that as far as our experimental orchards are concerned the drop in temperature has not been fatal to the newly hatched nymphs.
- C. R. Crosby (April 22): The rosy apple aphid is very abundant.
- New Jersey T. J. Headlee (April 22): The rosy apple aphid is moderately abundant.
- Pennsylvania T. L. Guyton (April 22): Anuraphis roseus Baker is very abundant at Harrisburg.
- Virginia P. J. Chapman (April 22): Anuraphis roseus Baker is scarce in eastern Virginia.
- Indiana J. J. Davis (April 27): Some rosy apple aphids are appearing.

Idaho C. Wakeland (April 22): Anuraphis roseus Baker moderately abundant in Idaho.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York P. J. Parrott (April 20): Very abundant in the Geneva section of New York.

New Jersey T. J. Headlee (April 22): This insect is very abundant.

Pennsylvania T. L. Guyton (April 22): R. prunifoliae Fitch is very abundant at Harrisburg.

Ohio D. M. DeLong (April 26): Apple grain aphid was observed hatching in the vicinity of Columbus on March 21.

Indiana J. J. Davis (April 27): Aphis avenae is moderately abundant.

Illinois W. P. Flint (April 22): The apple grain aphid is moderately abundant.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

New Mexico J. R. Eyer (April 27): Fruit aphids, species of the woolly apple aphid, Eriosoma lanigerum, very abundant, appearing generally in all fruit sections.

CODLING MOTH (Carpocapsa pomonella L.)

New Hampshire P. R. Lowry (April 23): The codling moth is found in very small numbers at Nashua, Wilton, and Durham.

New York P. J. Parrott (April 20): Moderately abundant in the Geneva section of New York.

Delaware H. L. Dozier (April 20): The codling moth is moderately abundant in the pupal stage, and emergence is expected within 10 days.

South Carolina M. H. Brunson (April): First emergence of the codling moth in cages noticed on April 8, abundant on 9th and 10th at Clemson College.

Georgia M. S. Yeomans (April 4): First moth emerged on April 4 at Cornelia.

Indiana J. J. Davis (April 27): The codling moth is scarce in northern Indiana and moderately abundant in the southern part of the State.

Illinois W. P. Flint (April 22): The codling moth is moderately abundant.

Idaho C. Wakeland (April 22): The codling moth in southwestern Idaho is very abundant. Very light mortality, but the season is late.

Missouri L. Haseman (April 24): Scarce at Waverly, and moderately abundant at Columbia and Marionville; 33 1/3 per cent were in the pupal stage April 20 at Waverly.

Washington R. L. Webster (April 2): Students in class in Fruit Insects find heavy mortality among larvae of the codling moth in orchards about Pullman.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Connecticut M. P. Zappe (April 26): Very few nests have been sent in from over the western half of the State. Very much less in abundance, compared with the average year.

Massachusetts A. I. Bourne (April 22): Tent caterpillars were noted to be hatching April 7 to 9. They appear to be slightly less abundant throughout the State as a whole than last year. It is possible, therefore, that the wave of abundance which we have encountered for the last several years has at last begun to subside.

New York P. J. Parrott (April 20): Moderately abundant in the Geneva section of New York.

New Jersey T. J. Headlee (April 22): The eastern tent caterpillar is moderately abundant.

Virginia P. J. Chapman (April 22): Very abundant in Virginia.

North Carolina R. W. Leiby (April 19): The tent caterpillar appears to be more common than in five or six years. The larvae are about ready to pupate. Some defoliation in orchards has been observed, this being unusual.

W. A. Thomas (March 15): This insect has just recently hatched and the larvae have formed small tents in more than 50 per cent of the wild cherry trees in this locality, Chadbourn.

Mississippi R. W. Harned (April 22): Specimens of Malacosoma americana were found to be abundant on wild plum trees at Benton.

SPRING CANKER WORM (Paleacrita vernata Peck)

Missouri L. Haseman (April 24): This pest has not developed in as great abundance as expected earlier.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

Idaho C. Wakeland (April 22): Fruit tree leaf rollers moderately abundant at Twin Falls. In southwestern part of State scarce where there was a very light mortality of eggs.

RESPLENDENT SHIELD BEARER (Contodisca splendoriferella Clem.)
RIBBED COCOON MAKER (Bucculatrix pomifoliella Clem.)

Massachusetts A. I. Bourne (April 22): Prof. Whitcomb notes the finding of a considerable collection of overwintering cocoons of the resplendent shield bearer and the ribbed cocoon maker in an orchard in Middlesex County. He reports that on many of the branches the cocoons were only about 1 inch apart, and certainly would average about 10 to the foot.

LEAF CRUMPLER (Mineola indigenella Zell.)

Missouri L. Haseman (April 24): Overwintering larvae unusually abundant on young fruit trees and on Crataegus.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

Nebraska M. H. Swenk (January 1 - April 15): Apple twigs badly scarred by the egg punctures of the buffalo treehopper were received from Platte County on March 27 and from Douglas County on April 8.

LEAFHOPPERS (Cicadellidae)

Virginia P. J. Chapman (April 22): Apple leafhoppers are scarce in eastern Virginia.

Illinois W. P. Flint (April 22): Apple leafhoppers are very abundant.

Kentucky H. Garman (April): Apple leafhoppers are moderately abundant.

APPLE TWIG BORER (Amphicerus bicaudatus Say)

Nebraska M. H. Swenk (January 1 - April 15): The first report of the grape cane borer (Schistocerus hamatus Fab.) for 1929 was received from Douglas County on April 6.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Connecticut P. Garman (April 24): Eggs have not yet hatched in orchards observed in New Haven County. They are found in the usual abundance.

Massachusetts A. I. Bourne (April 22): From the evidence of overwintering eggs the infestation of the European red mite over the State as a whole may be said to be normal. It is, however, very "spotty" this year, rather more so than has been noted for several years. It has been observed to be very heavy in many orchards, while in others, such as for example the college orchard (at Amherst), it is very light in most blocks. The infestation in many cases can be directly correlated with the particular oil sprays the growers used a year ago. Some of the worst infested

orchards this spring are those in which the grower made a poor choice of oils for control in 1928. As a result of this, many growers are making a change in their selection of oil sprays for 1929.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Connecticut W. E. Britton (April 23): The San Jose scale is scarce.
- Massachusetts A. I. Bourne (April 22): Professor Whitcomb reports, from the eastern part of the State in Nashoba District, that the San Jose Scale appears to be increasing slightly in abundance, but is not yet at a point where it is at all serious. The San Jose Scale is generally distributed and appears to be about normal in abundance except locally in some orchards where it is abundant.
- Rhode Island A. E. Stene (April 20): The San Jose scale is not present in many sections and scarce even when found.
- New York C. R. Crosby (April 22): The San Jose scale is scarce.
- P. J. Parrott (April 20): Scarce in the Geneva section of New York.
- New Jersey T. J. Headlee (April 22): The San Jose scale is scarce.
- Pennsylvania T. L. Guyton (April 22): The San Jose scale is moderately abundant at Harrisburg.
- Delaware H. L. Dozier (April 20): The San Jose scale is scarce.
- Virginia P. J. Chapman (April 22): This insect is moderately abundant in home orchards in eastern Virginia.
- South Carolina M. H. Brunson (April 20): The San Jose scale is moderately abundant.
- Georgia M. S. Yeomans (April 22): The San Jose scale is moderately abundant throughout the State, attacking various hosts.
- Illinois W. P. Flint (April 22): The San Jose scale is moderately abundant. (April 16): This scale is starting to grow rapidly and a survival of 40-45 per cent occurred in southern and 30-37 per cent in western Illinois.
- Kentucky H. Garman (April): The San Jose scale is moderately abundant.
- Missouri L. Haseman (April 24): Scarce throughout the State.
- Idaho C. Wakeland (April 22): This insect is moderately abundant in southwestern Idaho. About 25 per cent mortality.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

- Illinois W. P. Flint (April 16): Observations in central Illinois indicate a decrease in parasitism of this scale and a larger winter survival of eggs than has been the case for the last two seasons. (April 22): The oyster-shell scale is very abundant in the northern three-fourths of the State.
- Kentucky H. Garman (April): The oyster-shell scale is scarce.
- Missouri L. Haseman (April 24): Scarce in Missouri.
- Nebraska M. H. Swenk (January 1 - April 15): The oyster-shell scale on apple was complained of during the period here covered.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

- Massachusetts A. I. Bourne (April 22): Another reflection of the abnormally high temperatures was noted in the development of pear psyllas. The adults came out of hibernation much earlier than they did the year before. About the last of March numerous psyllas could be found, and eggs were noted during the warm period of April 6 and 9. This rather complicates our program of oil sprays just as the buds are swelling and about to break, since many eggs will already have been deposited.
- Connecticut P. Garman (April 24): Eggs are more abundant than last year in New Haven County.

PEACH

PEACH BORER (Aegeria exitiosa Say)

- New York P. J. Parrott (April 20): Moderately abundant in the Geneva section of New York.
- New Jersey T. J. Headlee (April 22): The peach borer is scarce.
- South Carolina M. H. Brunson (April 20): The peach borer is moderately abundant.
- Georgia O. I. Snapp (April 22): Some one, two, and three year old peach trees at Fort Valley have died as a result of paradichlorobenzene applied last fall for experimental purposes.
- M. S. Yeomans (April 22): The peach borer is moderately abundant.
- Kentucky H. Garman (April): The peach borer is very abundant.

Missouri L. Haseman (April 24): At Columbia the peach borer is scarce. Not serious in State.

LESSER PEACH BORER (Aegeria pictipes G. & R.)

Georgia O. I. Snapp (April 22): The infestation is heavy in orchards at Fort Valley, with many mechanical injuries on trees. Adults have been emerging during the past month.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Connecticut W. E. Britton (April 23): Very abundant at Hamden.

Delaware H. L. Dozier (April 20): Large numbers of the plum curculio have issued from winter quarters in all parts of the State. (April 10): The unusually early spring has brought the plum curculio from winter quarters at Camden. The first adult was beaten from plum on April 4 and is now abundant on peach and plums.

North Carolina R. W. Leiby (April 19): The curculio appears to be more numerous in the commercial Sandhill peach section than in any year since 1921. As many as 52 overwintered adults have been shaken from one tree. The average around the edges of heavily infested orchards is 15 per tree. Heavy damage can be expected.

C. H. Brannon (April 19): The plum curculio is very abundant at Raleigh.

South Carolina M. H. Brunson (April 20): The plum curculio is very abundant at Clemson College. Adults may be found in large numbers in practically all orchards. (April 2): Plum curculio was found in large numbers in orchards in the Sand Hill section at Columbia on this date. (April 11): The plum curculio was found in large numbers in the College orchard on April 2.

Georgia M. S. Yeomans (April 22): The plum curculio is very abundant on peaches at Albany and Americus.

O. I. Snapp (April 22): The curculio infestation in the Georgia peach belt is the heaviest since 1921. The situation is alarming and a suppression campaign is being waged in an effort to control the second generation. Many growers started rather late with the campaign, not realizing the extent of the infestation early in the season. A heavy infestation was anticipated on account of the leaving of many wormy peaches in the orchard last summer, and because of the mild winter. As many as 25 adults have been collected from a single tree. Peach "drops" show at least a 50 per cent infestation. Larvae are now leaving the "drops" and we are expecting second-brood larvae about the middle of June.

Illinois W. P. Flint (April 16): Mr. Chandler jarred the first plum curculio from peach in southern Illinois at Carbondale on April 6.

Missouri L. Haseman (April 24): This insect is moderately abundant at Columbia. We expect first signs of work by May 1.

Mississippi A SCARABAEID (Hoplia trivialis Harold)

Mississippi E. W. Harned (April 28): On March 8 a correspondent at Ruth sent specimens of Hoplia trivialis Harold that were found on a young peach tree. The specimens were determined by Dr. E. A. Chapin.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

New York P. J. Parrott (April 20): Absent in the Geneva section of this State.

Delaware H. L. Dozier (April 20): Adults of the oriental fruit moth are issuing in moderate abundance. (April 10): Oriental fruit moths started to issue on April 4 in the large screened central observation cage at the Entomological Substation. These adults came from apple drops collected after harvesting of the late apples, and wintered over under normal outdoor conditions. This is nearly three weeks ahead of the normal emergence for the past four years observed.

Virginia W. J. Schoene (April 20): L. R. Cagle reports that in the vicinity of Roanoke the adult moths of the oriental fruit moth have been out for some time. First-brood larvae were found on April 19.

South Carolina M. H. Brunson (April 20): The oriental fruit moth is generally scarce, but several small infested areas have been observed in the State. A new infestation has just been recorded.

Georgia M. S. Yeomans (April 22): The oriental fruit moth is moderately abundant on peaches.

O. I. Snapp and H. S. Swingle (April 4): The first twig injury was noted today. This is three weeks earlier than the first injury last year. The dates of the first twig injury in past years are: April 25, 1928, April 1, 1927, April 20, 1926; April 10, 1925. Life-history studies showed seven generations in 1925 and six in 1926.

Indiana J. J. Davis (April 26): In company with Porter and Sazama, I observed adults of this insect in a peach orchard at Vincennes on April 3. Sazama observed the first adults several days before. (April 27): The oriental fruit moth is very abundant in two tiers of southern counties.

Illinois W. P. Flint (April 16): From Mr. Chandler's observations made in hibernation cages kept under natural conditions in peach orchards in southern Illinois, the first emergence of the oriental

fruit moth started on April 5, when one moth, the larvae of which had been found in persimmon, emerged. On the 6th and 7th of April very heavy emergence occurred. In fact, judging by the data taken from Mr. Chandler's cages, about 80 per cent emergence took place on these days. The temperature at this time was between 80-85°F. (April 22): Very abundant in extreme southern section only.

Kentucky H. Garman (April): The oriental fruit moth has recently become moderately abundant in some localities.

Mississippi R. W. Harned (April 22): Peach twigs showing injury that was evidently caused by the larvae of the oriental peach moth were received on April 8 from Water Valley and Ripley.

OBLIQUE-BANDED LEAF ROLLER (Cacoecia rosaceana Harris)

Mississippi R. W. Harned (April 22): Specimens of the rose or oblique-banded leaf roller were collected on peach at Ruth on April 12, and on rose at Natchez on April 26. Only slight injury was noticed in each case.

STINK BUGS (Pentatomidae)

Mississippi R. W. Harned (April 25): Inspector J. P. Kislanko sent specimens of three stink bugs, Nezara viridula L., Euschistus servus Say, and Euschistus tristigmus Say that were collected on April 15 at Wiggins. He states that they are very abundant and are actively puncturing the young peach fruit.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Missouri L. Haseman (April 24): The rusty plum aphid is moderately abundant at Columbia.

Mississippi R. W. Harned (April 22): Aphids identified as Hysteroneura setariae by A. L. Hamner were reported as abundant on plum trees at Laurel and Meridian during the first week of April.

Arizona O. L. Barnes (April 23): The rusty plum aphid has been very abundant and causing serious injury to a plum tree in Phoenix.

THISTLE APHID (Anuraphis cardui L.)

Idaho C. Wakeland (April 22): Anuraphis cardui L. is very abundant on prunes in southwestern Idaho.

GOOSEBERRY

HOUGHTON'S GOOSEBERRY APHID (Aphis houghtoniensis Troop.)

Indiana J. J. Davis (April 26): Gooseberry twigs showing 1928 infesta-

tions of the gooseberry aphid (Aphis houghtonensis) received from Marion and Berne.

GRAPE

GRAPE FLEA BEETLE (Haltica chalybea Ill.)

Delaware

H. L. Dozier (April 10): The grapevine flea beetle has just issued in numbers from winter quarters in Centerville and is feeding on young grape shoots.

Mississippi

R. W. Harned (April 24): Coleopterous larvae feeding on the upper surface of grape leaves were sent to us from Meridian on April 22. These insects have been identified tentatively by J. M. Langston as larvae of the grape flea-beetle.

BLACKBERRY

ROSE SCALE (Aulacaspis rosae Bouche')

New Mexico

J. R. Eyer (April 27): At Farmington this scale is very abundant and injurious to blackberry.

PECAN

AN APHID (Myzocallis fumipenellus Fitch)

Georgia

T. L. Bissell (March 27): First stem mother on pecan at Experiment. (April 1): Adults on hickory. (April 9): Numerous adults on pecan. (April 26): Adults numerous on pecan; young less abundant; characteristic injury of this aphid as yet unobserved this year on either pecan or hickory.

Alabama

R. W. Harned (April 22): On April 13, H. P. Loding, of Mobile, Alabama, wrote as follows: "The pecan aphid, Myzocallis fumipenellus Fitch, made its appearance this year the first part of April, adults and young.

Mississippi

R. W. Harned (April 19): On this date J. P. Kislinko wrote as follows: "The first pecan aphids were observed in the vicinity of Wiggins on April 10. The black and lemon colored aphids were collected on this day. The migrants of both forms have been collected every day since then."

APHIDS (Monellia sp.)

Georgia

T. L. Bissell (April 26): Adults and young of Monellia costalis F. and a new species of Monellia are abundant on pecan at Experiment.

PECAN BUDMOTH (Proteopteryx bolliana Sling.)

Georgia

M. S. Yeomans (April 22): The budmoth Proteopteryx bolliana

Sling., is rather abundant in pecan orchards and nurseries of this section (Albany).

Mississippi R. W. Harned (April 22): Injury to pecan trees by the pecan bud moth was reported from Ruth on April 12.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Mississippi R. W. Harned (April 24): W. L. Gray, Inspector for the State Plant Board at Natchez, reports that pecan trees defoliated in the fall of 1928 by the walnut caterpillar have very few catkins, and the indications are that there will be an extremely light crop of pecans in that section of the State. It is thought that this is due to the defoliation by walnut caterpillars last year.

PECAN LEAF CASE BEARER (Acrobasis nebulella Riley)

Georgia M. S. Yeomans (April 22): The pecan leaf case bearer, Acrobasis nebulella, is showing up badly in untreated pecan orchards in Albany and vicinity. Where spraying and dusting were properly carried out late summer, especially during August and September, the insect has been satisfactorily controlled.

A SCARABAEID (Diplotaxis excavata Lec.)

Georgia M. S. Yeomans (April 22): Adults of Diplotaxis excavata Lec. were found feeding quite extensively on opening pecan buds and really doing serious damage in some orchards.

A SCARABAEID (Anomala undulata Melsh.)

Mississippi R. W. Harned (April 22): Beetles identified by J. M. Langston as Anomala undulata were observed as very abundant around Schley pecan trees at Lucedale on April 4.

HICKORY SHOOT CURCULIO (Conotrachelus aratus Germ.)

Mississippi R. W. Harned (April 25): Inspector N. D. Peets collected on April 18 specimens of the hickory shoot curculio on pecan trees at Ruth. He sent in a number of larvae in the twigs and also two adult weevils. He reported that 75 per cent of the twigs on these particular pecan trees were damaged by this insect. (April 28): Inspector J. P. Kislanko, at Wiggins, on March 24, sent in specimens of Conotrachelus aratus Germ. (determination verified by E. A. Chapin). He wrote that the females were ovipositing in petioles of hickory leaves and that the adult weevils were numerous at that time.

HICKORY BARK BEETLE (Scolytus quadrispinosus Say)

Mississippi R. W. Harned (April 25): Inspector N. D. Peets, Brookhaven,

sent in one bark beetle that J. M. Langston identified as probably the hickory bark beetle, Eccoptogaster quadrispinosus that was collected on pecan at Ruth, Rankin County, on April 18. No injury was reported and only one specimen was sent in, but this is of special interest because of the possibility that the hickory bark beetle might become a serious menace to pecan trees.

FIG

CITRUS MEALYBUG (Pseudococcus citri Risse)

Louisiana

A. W. Gressman (April 4): This insect is appearing in numbers on figs, Ficus carica, in New Orleans. The crop loss each year from this insect is estimated at from 20 per cent in years of light attack to 75 per cent in years of very heavy infestation.

CITRUS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata Wied.)

Florida

Plant Quarantine and Control Administration (April 30): The Mediterranean fruit fly, an extremely destructive pest in many tropical and subtropical countries where it causes an enormous damage by its attack on a wide variety of hosts, both fruit and vegetables, was discovered at Orlando, Florida, on April 6. On April 15 the State Plant Board of Florida after a preliminary survey promulgated a quarantine covering all of Orange and Seminole Counties and part of Lake County, to include all the districts then known to be infested by this pest.

Subsequent and more intensive surveys carried on up to May 1 have led to the discovery of the fruit fly at the following points: Daytona Beach, Holly Hill, De Leon Springs, DeLand, Oak Hill, in Volusia County; Eustis in Lake County; Narcoossee in Osceola County and Titusville and Cocoa in Brevard County. A single infested fruit was found on a cull-dump at Haines City in Polk County and a few infested Florida fruits were taken from truck shipments at Miami, Florida, Ocilla, Georgia, and in Louisiana.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

South Carolina

M. H. Brunson (April 20): The citrus whitefly is scarce.

Georgia

M. S. Yeomans (April 22): Adults of the citrus whitefly were seen on the wing April 20, various plants infested.

APHIDS (Aphididae)

Arizona

O. L. Barnes (April 23): On April 2, 15, and 23, Aphis medicaginis Koch and Myzus persicae Sulz were found on the new and tender foliage of young citrus trees in several groves north and northeast of Phoenix. The tender foliage on older trees was infected to some extent also. The insects were very numerous on some trees.

CITRUS APHID (Aphis spiraecola Patch)

Mississippi K. L. Cockerham (April 11): On this date citrus aphids were found on satsuma oranges delivered to Biloxi.

CITROPHILUS MEALYBUG (Pseudococcus gahani Green)

California Monthly News Letter Los Angeles County Horticultural Commission Volume 11, No. 4, April 15: A preliminary report of inspections completed to date in the annual spring survey of all citrophilus mealybug infested citrus orchards of record in Los Angeles County indicates very little change from the seasonal average of the past five years. Reports made to H. M. Armitage by the various district horticultural inspections, indicate a slight increase in light and medium infestations with a corresponding decrease in heavy infestations.

An attempt is being made to eradicate an infestation at the Van Nuys School at Van Nuys. The eradication program to date has consisted of the removal of 29 trees from six different areas in the school grounds. An attempt is also being made to control the mealybug infestation in the shrubbery at the Torrance High School.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

South Carolina M. H. Brunson (April 11): The cottony-cushion scale on rose was sent to the department from Estill April 7.

Georgia M. S. Yeomans (April 22): The cottony-cushion scale has been showing up again in the Albany section. Australian ladybeetles will likely put the scale infestation in bounds.

Florida E. W. Berger (March 28): The cottony-cushion scale is abundant about Gainesville at this time, about 15 separate infestations exist. Numerous infestations are also being reported for other parts of the State. While most of these infestations are on citrus others are on Pittosporum, roses and other plants. In the past month about 100 colonies of the Vedalia, or Australian Ladybeetles, have been furnished to growers for the control of the cottony-cushion scale, and not an instance is known where the beetles have failed to control it.

It is something of an open question why this scale has increased so abundantly during the winter and early spring, which is rather unusual, although there is some increase each year during the period indicated. There has been some indication that the Vedalia were decimated during the last summer and fall by some disease, which may, of course, be the correct explanation. On the other hand, our rather continuous cool weather may be responsible for having checked the activities of the Vedalia but allowing the scale to increase.

PURPLE SCALE (Lepidosaphes beckii Newm.)

Georgia M. S. Yeomans (April 22): The purple scale is moderately abundant on Satsuma oranges in southern Georgia.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi

R. W. Harned (April 22): Throughout the month of April the vegetable weevil has been very abundant in the southern half of the State. Tomatoes, turnips, mustard, cabbage, carrots, and strawberries have been injured. Specimens have been received from Pike, Copiah, Lincoln, Hinds, Amite, George, Rankin, Scott, and Wilkinson Counties. (April 24): On April 22 a correspondent at Mechanicsburg, Yazoo County, sent in some adult vegetable weevils with the following comments: "They are literally destroying my garden. Tomatoes are destroyed over night. Mustard, radishes, etc., are destroyed almost as fast as they come out of the ground."

M. M. High (March 26): The vegetable weevil had, during the past two weeks, destroyed several plantings of turnips and carrots at Gulfport before the growers discovered the pest or knew what insect was responsible for the injury.

H. H. Kimball (March 23): Two acres of carrots on property 4 miles northwest of Crystal Springs was found to be heavily infested with the vegetable weevil. Larvae were very abundant, but no pupae or adults were observed. The field was planted in October, 1928, and the loss is estimated at 30 per cent of the crop.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

New York

P. J. Parrot (April 20): This insect is scarce around Geneva.

Virginia

P. J. Chapman (April 8): Adults of this insect are commonly found feeding on willow pollen in several localities near Norfolk. (April 22): The striped cucumber beetle is scarce in eastern Virginia.

South Carolina

M. H. Brunson (April 20): The striped cucumber beetle is moderately abundant in the southern and eastern part of the State.

Illinois

W. P. Flint (April 22): This insect is moderately abundant.

Kentucky

H. Garman (April): The striped cucumber beetle is very abundant.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Virginia

P. J. Chapman (April 20): Diabrotica 12-punctata was feeding on beans the last of March in Princess Anne County.

North Carolina

C. H. Brannon (April 19): The spotted cucumber beetle is

generally distributed over the whole State, attacking lettuce, beans, and other crops.

South Carolina F. Sherman (March 27): Adults were taken in flight at Clemson College as early as March 11 and living adults in considerable numbers were sent from an eastern county on February 23.

M. H. Brunson (April 20): The spotted cucumber beetle is moderately abundant.

Georgia M. S. Yeomans (April 22): This insect is moderately abundant.

Florida F. S. Chamberlin (April 8): Adults of this insect are very abundant in Gadsden County on truck crops, especially beans and cucumbers, and a slight infestation has been found on tobacco.

Mississippi R. W. Harned (April 22): Adult specimens were collected on snap beans at Carriere March 28, but little or no injury had been caused. Larvae of this species were reported as seriously injuring the crown and roots of young corn at Overt April 18.

A MOLE CRICKET (Scapteriscus acletus R. & H.)

Mississippi M. M. High (March 24): This mole cricket continues to be numerous in several localities near Gulfport and Lyman, where it attacks various truck crops, as cabbage, lettuce, etc.

R. W. Harned (April 25): On April 24 a correspondent at Piave, Green County, sent in some specimens determined by J. M. Langston as Scapteriscus acletus, with the following comments: "The habits of these insects so far as I can determine are similar to that of a mole, ^{as} they burrow and make miniature mounds while travelling up and down the drill where the seed are planted."

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty)

Indiana J. J. Davis (April 26): A mole cricket (Gryllotalpa borealis) was reported as abundant and attacking tomato seed in soil at Greencastle April 20.

TARNISHED PLANT BUG (Lygus pratensis L.)

Missouri L. Haseman (April 24): Overwintering adults have been active during April on apple blossoms, and injury to strawberry blossoms has been reported.

Utah G. F. Knowlton (April 10): The tarnished plant bug was found around the margins of last year's sugar-beet fields at Brigham City and Willard. This insect was very abundant on alfalfa and rather numerous on sugar beets during the summer of 1928.

CRANE FLIES (Tipulidae)

Indiana

J. J. Davis (April 26): Leatherjacket larvae (Tipulidae) were sent in from English March 20, where they were reported very abundant in a timothy field, although no damage was noticed at the time.

GARDEN SLUG (Agriolimax agrestis L.)

North Carolina

W. A. Thomas (March 30): This pest has been unusually abundant in this section (Chadbourn) during the past few weeks. Today they were observed feeding on broccoli foliage as high as 6 to 8 inches above the soil. On spinach only the lower leaves were injured. The outbreak is undoubtedly due to the very wet weather of the past month. (April 22): The garden snails have begun to eat small holes in ripe strawberries in the fields. The attacks have not yet reached a serious stage but they are seen frequently on the berries, especially in heavy foliage where the fruit is shaded.

SOWBUGS (Oniscidae)

Mississippi

K. L. Cockerham (April 7): For several weeks the pillbugs have been numerous and causing damage to garden truck such as turnips, radishes, and beans, and to flowers in the yard.

MILLIPEDES (Myriapoda)

Indiana

J. J. Davis (April 26): Millipedes have been reported damaging plants in several localities. From Berne, April 16, is the report that they are abundant in the garden and that tomatoes and strawberries lying on the ground were eaten last year. From Jasper we have a report of March 13 that they are eating the roots of vegetable, flower garden and hotbed plants, and it is specifically stated that they eat the roots of young tomatoes and lettuce plants. From Huntington comes the report April 24 that these animals are eating the roots of various garden plants.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Virginia

P. J. Chapman (April 11): Eggplants in cold frames have been injured by adults in a number of instances near Norfolk. One grower hand-picked an average of 2 or 3 insects to a plant in some beds. (April 22): This insect has become moderately abundant in eastern Virginia.

G. E. Gould (April 19): The first adults were found on potatoes on April 4, the first eggs found April 9, and the first

larvae emerged on April 19. The beetles appear to be quite numerous at the present time.

- North Carolina W. A. Thomas (April 15): This insect is now active in about the usual abundance on potatoes at Chadbourn. The first eggs have hatched and the larvae are doing considerable damage in some fields.
- South Carolina M. H. Brunson (April 11): The Colorado potato beetle was first noticed on potato on April 3 at Clemson College. (April 30): The insect is moderately abundant; field activity has just started.
- Georgia M. S. Yeomans (April 22): This insect is moderately abundant.
- Florida E. W. Berger (April 4): I am advised by our county demonstration agent, F. L. Craft, that the Colorado potato beetle is causing some trouble in the Irish potato plantings of Alachua County but is being controlled by arsenicals. In one instance in a field that was planted to potatoes last year, they are in tomato plants. It is also reported to be present in the potato sections of Hastings.
- Illinois W. P. Flint (April 22): The Colorado potato beetle is moderately abundant.
- Kentucky H. Garman (April): The Colorado potato beetle is very abundant.
- Alabama K. L. Cockerham (April 1): Adults and larvae were found on tomato plants in a bed near Theodore on April 1; egg batches were also quite numerous.
- Mississippi H. H. Kimball (March 25): A Colorado potato beetle was found on a volunteer potato plant in a cabbage patch near Crystal Springs.
- P. K. Harrison (April 5): Adults and eggs were observed in several fields of Irish potatoes near Picayune.

GREEN PEACH APHID (Myzus persicae Sulz.)

- Mississippi R. W. Harned (April 25): Inspector Chesley Hines, Yazoo City, sent in some aphids on April 20 that were collected on Irish potatoes. These were determined as Myzus persicae. Mr. Hines reported that the bottom leaves of the potato plants were turning yellow because of the injury. The owner had about one week previously dusted the plants with calcium arsenate to control the Colorado potato beetle.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

- Illinois W. P. Flint (April 22): This insect is moderately abundant.

Kentucky H. Garman (April): This insect is very abundant.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Florida F. S. Chamberlin (March 28): This insect is very numerous for this season of the year. Fields of Irish potatoes in Gadsden County show a considerable amount of foliage damage.

GREEN PEACH APHID (Myzus persicae Sulz.)

Virginia G. E. Gould (April 18): The spinach aphid (Myzus persicae) is more common on potato in Princess Anne County than the potato aphid, there being usually 2 or 3 adults on a plant.

EGGPLANT

EGGPLANT FLEA BEETLE (Epitrix fuscula Crotch)

Mississippi R. W. Harned (April 25): On April 15 a correspondent at Fayette reported that tiny black insects were eating the leaves off eggplants and killing them. Later when some of these insects were sent in they proved to be flea beetles, probably Epitrix sp. (Determined by J. M. Langston.)

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

South Carolina F. Sherman (March 27): The imported cabbage butterfly appeared to be on the wing at Clemson College about March 11 and has been quite common since that time, more abundant than usual I believe.

Ohio N. F. Howard (April 26): An adult of Pontia rapae was observed in flight at Columbus on April 6.

Kentucky H. Garman (April): This insect is very abundant.

Missouri L. Haseman (April 24): This insect is moderately abundant, butterflies having been seen since the first week in April.

Mississippi R. W. Harned (April 22): Cabbage at Durant was reported as being seriously injured by the common cabbage worm April 8.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Delaware H. L. Dozier (April 10): Specimens of the harlequin bug were received from Laurel March 25 with the report that they were seriously injuring all kinds of greens, especially cabbage, and were then attacking peas and beans.

Virginia

P. J. Chapman and L. A. Brannon (April 18): A field of collards at Lynnhaven Inlet, Princess Anne County, which was badly infested last fall was examined March 22 and two adults were found in hibernation. On March 29 adults were numerous in small areas in the field. The first eggs were found April 1 and by April 11 eggs were common.

North Carolina

W. A. Thomas (April 10): The harlequin bug has developed an unusually heavy infestation near Chadbourn this spring on seedling broccoli, where thousands may be seen feeding on flowers and young seed-pods. On many plants the seed-pods have died without forming seed owing to attacks of this insect. Heading cabbage adjacent to heavily infested broccoli is, at least temporarily, immune from attacks.

C. H. Brannon (April 19): This insect is very abundant.

South Carolina

M. H. Brunson (March 31): This insect is causing much damage to cabbage in many parts of the State. (April 20): The harlequin bug is very abundant.

Mississippi

H. H. Kimball (March 25): The harlequin bug is very numerous in a spot approximately 30 ft. square in a 2-acre field of cabbage on property 3 miles northwest of Crystal Springs. There were over 40 bugs on one plant, 20 of these observed mating.

R. M. Harned (April 22): Complaints in regard to the harlequin bug have been received from all sections of the State. Specimens have recently been received from Mahalak, Columbus, Jackson, and Greenwood. Turnips, lettuce, collards, cabbage, and rape have been seriously injured.

Texas

F. L. Thomas (April 22): The correspondent who is a truck grower of long experience called this insect a new pest of cabbage and wrote that he needed quick relief. The report was from Wimsboro, Wood County.

DIAMOND-BACK MOTHE (Plutella maculipennis Curt.)

Arizona

O. L. Barnes (March 15): These insects were rather abundant in one cabbage field near Phoenix, where some injury was done.

STRAWBERRY

STRAWBERRY ROOT APHID (Aphis forbesi Weid)

North Carolina

W. A. Thomas (April 16): This insect has just begun to infest the tender buds and leaves of strawberry plants but is more numerous than at this time last year at Chadbourn. It is attacking principally the young leaves before they begin to unfold.

Mississippi R. W. Harned (April 22): Although specimens of the strawberry root louse have been received from only two places, Durant and Tribbett, during the month of April, many other complaints from all sections of the State have been received.

STRAWBERRY CROWN BORER (Tyloclerma fragariae Riley)

Missouri L. Haseman (April 23): Our most important strawberry pest, the strawberry crown borer, is just beginning to oviposit.

STRAWBERRY ROOT WORM (Paria canella Fab.)

North Carolina W. A. Thomas (March 30): This insect began leaving hibernation the second week in March and the movement has gradually increased until the edges of strawberry fields are rather heavily infested. The foliage is already showing numerous holes. This movement may presage heavy damage to the crop in midsummer. (Chadbourn.)

GREEN JUNE BEETLE (Cotinis nitida L.)

Mississippi R. W. Harned (April 22): Larvae of Cotinis nitida were found injuring roots of strawberry plants at Brookhaven on April 10.

STRAWBERRY FLEA BEETLE (Haltica ignita Ill.)

Mississippi R. W. Harned (April 22): The strawberry flea beetle was reported as causing injury to strawberry plants at Summit, April 17.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

North Carolina W. A. Thomas (March 27): This weevil began emerging from hibernation March 14 and by the 25th oviposition was extremely heavy in the strawberry buds. At this date the berry growers are experiencing the heaviest weevil infestation in the Chadbourn section within the past 10 years. Some fields have already had a loss of nearly one-fourth of the crop.

RED SPIDER (Tetranychus telarius L.)

Mississippi M. M. High (March 26): The red spider is now abundant on strawberry along the coast and several preparations have been used against the pest.

R. W. Harned (April 22): Red spiders have been reported as causing considerable damage to strawberries near Pascagoula and Ocean Springs during March and April. Control measures are being used.

FIRE ANT (Solenopsis geminata Fab.)

North Carolina W. A. Thomas (April 19): The cornfield ant was observed eating holes in ripe strawberries in a field where the fruit had not been mulched. The berries were partly covered in earth from cultivation. (Chadbourn.)

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

New Jersey T. J. Headlee (April 22): This insect is very abundant in winter quarters in Cape May County.

Virginia P. J. Chapman (April 20): Beans at Norfolk have been up since about March 23 and to date no adults have been taken in the field.

North Carolina R. W. Leiby (April 19): Reports have been received to the effect that some adult beetles have left hibernation and are feeding on beans.

South Carolina W. H. Clark (April 1): Cage activity was first observed on March 15.

M. H. Brunson (April 20): Field activities of the Mexican bean beetle were first noticed at Clemson College April 19. This date is 11 days earlier than that of last year. This insect is scarce.

Georgia M. S. Yeomans (April 22): The Mexican bean beetle is moderately abundant on snap beans in northern Georgia.

Kentucky H. Garman (April); This insect is very abundant.

Mississippi K. L. Cockerham (April 22): Two specimens of this insect were found at Biloxi today, one on Irish potatoes and the other on snap beans.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Virginia P. J. Chapman (April 1): A few adults were feeding on beans March 28 near Norfolk.

South Carolina M. H. Brunson (April 7): The bean leaf beetle was first noticed feeding on beans at Clemson College on this date. (April 8): This insect has been reported in destructive numbers in the coastal plain section of South Carolina.

W. H. Clark (April 1): Cage activity at Clemson College was first observed March 17.

Georgia M. S. Yeomans (April 22): The bean leaf beetle adults are appearing in great numbers on beans in all southern Georgia.

Mississippi

P. K. Harrison (March 26): This insect is damaging 75 per cent of the beans in several fields near Picayune.

R. W. Harned (April 22): A very heavy infestation of the bean leaf beetle on black-eyed peas was observed by Inspector Henry Dietrich at Lucedale on April 1. Specimens collected on beans were also received from Carriere and McNeill during the month of April.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Virginia

P. J. Chapman (April 17): Beans planted after about April 1 are producing a ragged stand throughout the Norfolk trucking section and much sprouted seed and even plants well above the ground are found infested with the seed corn maggot. Larvae are frequently found in the stalk 1 to 2 inches above the ground. Snap beans planted between March 18 and March 25 are reasonably free from injury. Losses are general on the second sowings and large acreages are likely to be plowed up shortly and new beans sown.

THREE-CORNERED ALFALFA HOPPER (Stictocephala festina Say)

Mississippi

R. W. Harned (April 22): Specimens of the three-cornered alfalfa hopper were collected on snap beans at Carriere March 28. The correspondent did not indicate the extent of injury.

ONION

ONION THRIPS (Thrips tabaci L.)

California

R. E. Campbell (March 25): The onion thrips is present pretty well over the onion acreage of the Coachella Valley, doing the usual amount of damage or perhaps more. Any increase in numbers is likely to cause a considerable loss.

BAR-WINGED ONION FLY (Chaetopsis aenea Wied.)

Mississippi

K. L. Cockerham (April 7): For several days these adults have been quite numerous near Biloxi. So far I have seen no damage, but they are flying around and lighting on the tops of onions and gladioli.

MELONS

WESTERN STRIPED CUCUMBER BEETLE (Diabrotica trivittata Mann.)

Arizona

O. L. Barnes (April 23): On April 5 and 16, the western striped cucumber beetle on cantaloupe was reported. It was doing

very serious injury to young plants in Salt River Valley, and two fields were injured near Phoenix.

SWEET POTATO

SWEET-POTATO FLEA BEETLE (Chaetocnema confinis Crotch)

South Carolina M. H. Brunson (April 9): The sweet-potato flea beetle was first noticed feeding on sweet potato April 9 but only slight damage has been reported so far.

SUGAR BEET

BEET LEAFHOPPER (Eutettix tenellus Baker)

New Mexico J. R. Eyer (April 27): Beet leafhoppers appear in all beet sections of the State and are very abundant. They feed on tomato, tobacco, squash, and Russian thistle also.

Idaho C. Wakeland (April 23): Very severe winter mortality of this insect in the natural breeding areas throughout southern Idaho has produced a scarcity of this insect. In a few localities where low-headed rosettes of wild mustards survived the winter, there are a few centers of fairly heavy populations which may give rise to migrations to cultivated areas on a small scale if favorable weather conditions arise.

Utah G. F. Knowlton (April 2): Three beet leafhoppers were collected in the vicinity of Hyrum April 12.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Arizona O. L. Barnes (April 23): The turnip aphid, Aphis pseudobrassicae, has been plentiful on turnips in and near Phoenix. I observed one small planting of turnips almost completely destroyed by it.

SPINACH

POTATO APHID (Illinoia solanifolii Ashm.)

Virginia G. E. Gould (April 18): Some fields of spinach are moderately heavily infested with the pink and green potato aphid. It is easily the predominant species on this host at present. Most of the individuals are developing wings.

S O U T H E R N F I E L D - C R O P I N S E C T S

COTTON

SALT-MARSH CATERPILLAR (Estigmene acraea Drury)

Texas F. L. Thomas (April 25): R. D. Balls at Falacios, Matagorda County, reported that a farmer replanted 70 acres of cotton as a result of injury by the salt-marsh caterpillar, presumably Estigmene acraea. Injury to cotton was also noticed in Brazoria County.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

North Carolina C. H. Brannon (April 19): The tobacco flea beetle is very abundant over the whole State.

South Carolina M. H. Brunson (April 20): This insect is very scarce.

SLUGS (Mollusca)

South Carolina F. Sherman (March 27): Slugs have several times been reported damaging tobacco seedlings in plant beds in eastern counties; quite possibly they have increased under our heavy rainfall.

M. H. Brunson (April 1): Slugs were very destructive on tobacco plant beds in northeastern South Carolina during the last half of March.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana W. E. Haley (April 4): Eggs and first-instar larvae of the sugarcane borer were found today in Lafourche Parish.

SUGARCANE BEETLE (Eutheola rugiceps Lec.)

Louisiana W. E. Haley (April 5): The sugarcane beetle was found injuring sugarcane in Terrebonne and Lafourche Parishes.

GRAY SUGARCANE MEALYBUG (Pseudococcus boninsis Kuwana)

Mississippi R. W. Harned (April 22): The first specimens of this sugarcane mealybug that have been recorded from Mississippi were collected late in March by Inspector W. L. Gray on sugarcane growing at Melton. This sugarcane had been shipped into Mississippi from Geismar, Louisiana, and had been distributed to a number of properties, but every reasonable effort will be made to eradicate the pest.

F O R E S T A N D S H A D E - T R E E I N S E C T S

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

- Indiana J. J. Davis (April 26): Overwintering bags were reported abundant in young apple orchards at Acton and Rockville, also on gooseberry at Brazil. .
- Illinoia W. P. Flint (April 16): Bagworms are being received from many points in the State. It is undoubtedly slowly increasing, especially in the vicinity of many of the larger cities.
- Missouri L. Haseman (April 24): This insect is not abundant this spring.
- Nebraska M. H. Swenk (January 1-April 15): A Pawnee County correspondent reported the bags of the bagworm as plentiful in his cedar trees on February 19.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

- Massachusetts A. I. Bourne (April 22): We have noticed and have had sent to the college numerous egg masses of tussock moths from practically all sections of the State. From these indications it would seem that there is a temporary abundance of these insects.

PERIODICAL CICADA (Tibicina septendecim L.)

- Illinoia J. H. Bigger (March 25): The finding of well-grown nymphs at from 12 to 15 inches in depth in timber land near Arnold and in excavations in Jacksonville indicates that Brood III of the periodical cicada will extend well into central Illinois this year.

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

- Michigan R. H. Pettit (April 12): I have to report the occurrence of Brachyrhinus ovatus, sometimes called the strawberry crown girdler, in epidemic form. The larvae are present in enormous numbers in our forest nursery where they have gnawed the bark from 3-year old seedlings of various evergreens including white pine, Jack pine, red pine, western yellow pine, Norway and white spruce, Japanese larch, and probably some other evergreens. It seems to be the worst on 3-year-old plants, although it is found in smaller numbers on 2-year-old and occasionally on isolated trees of larger size. The damage has been particularly severe and the loss runs up into the thousands in this one nursery. This insect has been found occasionally in this part of the State in the past but never in sufficient numbers to attract much attention, at least not for 30 years. The identification was made by a specialist in the Bureau of Entomology.

APPLE TWIG PRUNER (Hypermallus villosus Fab.)

North Carolina W. A. Thomas (March 21): These insects began emerging from hibernation as indicated by their presence on tanglefoot screens near the woods on the above date, and by the 25th large numbers were being taken from these screens daily. This was in the vicinity of Chadbourn.

ASH

APHIDS (Aphididae)

Arizona O. L. Barnes (April 23): Aphids (species undetermined) have done very serious injury to two ash trees in Phoenix. The trees had been severely pruned and were putting on new tender growth when attacked by the aphids. Practically all the leaves are curled and covered by the insects. Other ash trees in the same row on both sides of the infested trees, but which had not been pruned, were not infested at the time.

ARBORVITAE

AN APHID (Dilachnus thujaefolia Theob.)

Mississippi R. W. Harned (April 22): This insect has been very abundant this spring on arborvitae plants throughout the State.

BOXELDER

BOXELDER BUG (Leptocoris trivittatus Say)

Nebraska M. H. Swenk (January 1-April 15): The boxelder bug was complained of from Dawson, Custer, Nance, Adams, and Jefferson Counties between January 8 and March 28. The complaints were mostly of its invading houses and staining draperies, but the Nance County correspondent complained of injury to tulip bulbs late in March.

CEDAR

DEODAR WEEVIL (Pissodes deodarae Hopk.)

Mississippi R. W. Harned (April 22): Weevils belonging to the genus Pissodes, and probably to the species deodarae, have seriously injured Cedrus deodara plants at a number of places in the State this spring. Specimens have been received from Greenwood, Kosciusko, Durant, and Meridian recently.

SOUTHERN PINE SAWYER (Monochamus titillator Fab.)

Mississippi R. W. Harned (April 25): On April 23 a correspondent at Meridian sent one specimen of the southern pine sawyer with the following comments: "This beetle was found on my Cedrus deodara. It eats the bark of the trees and the sap comes out."

ELM

REDDISH ELM SNOUT BEETLE (Magdalis armicollis Say)

Nebraska M. H. Swenk (January 1-April 15): Injury to elms by the reddish elm snout beetle was found in Boone County March 30 and in Valley County April 4. In both cases the infestations were apparently following infestations by the elm borer.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Nebraska M. H. Swenk (January 1-April 15): The European elm scale, Gossyparia ulmi, was complained of during the period covered by this report, as damaging elms at North Platte.

HICKORY

A PHYLLOXERA (Phylloxera sp.)

Georgia T. L. Bissell (April 19): Adult Phylloxera in myriads laying eggs along the midrib of hickory leaves was reported from Experiment. They were coming from opened galls on stems and petioles. (April 27): Adults on leaves are greatly reduced in numbers and few eggs have hatched.

OAK

GOLDEN OAK SCALE (Asterolecanium variolosum Ratz.)

Connecticut R. B. Friend (April 25): This insect is very abundant on the young oak and chestnut trees near New Haven.

OAK LECANIUM (Lecanium quercifex Fitch)

South Carolina M. H. Brunson (April 22): The oak lecanium is occurring widely over the State on water oak.

PINE

A SAWFLY (Neodiprion dyari Roh.)

North Carolina R. W. Leiby (April 19): This insect was reported from Madison

as defoliating pine trees, probably white pine, and "literally bushels of the worms are to be found in some pine thickets." The larvae are nearly grown.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Nebraska

M. H. Swenk (January 1-April 15): The usual number of complaints of the pine leaf scale were received during the period here covered. They came from Douglas, Burt, Lancaster, Saline, and Antelope Counties.

Kansas

J. W. McColloch (March 21): A Colorado blue spruce at McPherson is heavily infested with the pine leaf scale.

WILLOW

COTTONWOOD LEAF BEETLE (Lina scripta Fab.)

Mississippi

R. W. Harned (April 25): Larvae tentatively identified by J. M. Langston as Melasma scripta were sent in from McComb on April 20, with the information that they were completely defoliating a weeping willow tree.

INSECTS ATTACKING GREENHOUSE

AND ORNAMENTAL PLANTS

RED SPIDER (Tetranychus telarius L.)

Ohio

E. W. Mendenhall (April 22): The red spider was found much earlier this year than usual on the outside owing to the early, warm weather. It was noticeable during the month of March in evergreen plantations at Dayton, but on account of the wet, cool days in April it has been retarded. The indications are that when it gets warm and dry again the damage will be severe unless taken in hand.

Arizona

O. L. Barnes (March 8): Specimens of the red spider were brought to us on rose bushes and reported as being abundant on a few plants near Phoenix. (April 17): Red spiders were rather numerous on arborvitae and rose plants in Phoenix.

GREENHOUSE SOWBUG (Armadillidium vulgare Latr.)

Nebraska

M. H. Swenk (January 1-April 15): A greenhouse in Scotts Bluff County was reported as having an infestation of this pillbug in February.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Nebraska

M. H. Swenk (January 1-April 15): Inquiries as to the control

of Pseudococcus citri on rubber plants and fern were received during the winter from Grant and Boyd Counties.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Georgia

O. I. Snapp (April 18): This insect is doing considerable damage to ornamentals and shrubbery around homes in Swainsboro. (April 20): A very heavy infestation of this insect on willow at Haddock has been reported.

CANNA

LESSER CANNA LEAF ROLLER (Geshna cannalis Quaint.)

Mississippi

R. W. Harned (April 22): Specimens of the lesser canna leaf roller were received recently from Biloxi and Osyka, with the information that they were seriously injuring cannas. Several other complaints in regard to this insect have been received from the southern half of the State but no specimens accompanied the reports.

CHRYSANTHEMUM

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

Mississippi

R. W. Harned (April 22): Chrysanthemum leaves infested with Macrosiphum sanborni were sent in from Lena March 26.

Arizona

O. L. Barnes (April 23): On April 4, the chrysanthemum aphid was very abundant on chrysanthemums in the vicinity of Phoenix. We have received several complaints of the unsightly appearance of the plants caused by these aphids.

EUONYMUS

EUONUMUS SCALE (Chionaspis euonymi Comst.)

Tennessee

O. I. Snapp (April 16): Very heavy infestations on Euonymus japonica and running euonymus have been reported from Grand Junction.

LILAC

LILAC BORER (Podosesia syringae Harr.)

Indiana

J. J. Davis (April 26): The lilac borer was reported damaging lilac at Salem on April 16.

NARCISSUS

LESSER BULB FLY (Eumerus strigatus Fallen)

Ohio

E. W. Mendenhall (April 19): I find the small narcissus bulb fly in the narcissus at Dayton. Some of the plantations are quite badly infested.

OLEANDER

OLEANDER APHID (Aphis nerii Fons.)

Mississippi

R. W. Harned (April 22): Oleander leaves heavily infested with Aphis nerii were received from McComb April 10. A. L. Hamner identified the specimens.

HEMISPHERICAL SCALE (Saissetia hemisphaerica Targ.)

Nebraska

M. H. Swenk (January 1-April 15): The hemispherical scale on oleander was complained of during the period here covered.

ROSE

POTATO APHID (Illinoia solanifolii Ashm.)

Mississippi

R. W. Harned (April 22): Although specimens of the rose aphid Macrosiphum rosae have been received from only one locality, Okolona, during the month of April, from complaints of lice on roses that we have received at this office, we believe that the infestation is quite general throughout the State.

ROSE APHID (Macrosiphum rosae L.)

Maryland

J. A. Hyslop (April 26): The first stem-mothers of this insect were observed on rose today.

TAXUS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Rhode Island

A. E. Stene (April 20): The black vine weevil has been sent in and reported as abundant on Taxus.

INSECTS ATTACKING MAN AND

DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Florida F. C. Bishopp and T. E. McNeel (March 16): Anopheles quadrimaculatus Say and A. crucians Wied. are present at Zellwood in small numbers, A. crucians being the more numerous. Mansonia perturbans Walk., which becomes a serious pest later in the summer, is just beginning to cause annoyance to man.

HOUSE FLY (Musca domestica L.)

Missouri L. Haseman (April 24): While the House fly is yet scarce, it is beginning to attract attention in the farm houses.

FLEAS (Siphonaptera)

Indiana J. J. Davis (April 26): During the past month numerous reports of flea infestations were received. In all but one case they were reported infesting barns or other farm buildings. Localities from which reports were received include Attica, Flora, Lebanon, Salem, Shelbyville, and Tipton.

Florida F. C. Bishopp (March 23): Every dog examined was found to be more or less infested with either dog or cat fleas. Some of the infestations were heavy.

Missouri L. Haseman (April 24): This pest is apparently beginning its yearly cycle unusually early, as several complaints of serious outbreaks have been reported during April.

BED BUG (Cimex lectularius L.)

Indiana J. J. Davis (April 26): Information on the control of bed bugs was requested by correspondents at Frankfort, Kokomo, and Russellville during the past month.

Missouri L. Haseman (April 24): More calls for information on the control of bed bugs have been received this month than is usually the case so early in the year.

BLACK CORSAIR (Melanolestes picipes H. S.)

Indiana J. J. Davis (April 26): Kissing bugs, probably Melanolestes picipes, were reported April 10 from Freetown with the information that they were troublesome and that their "sting is worse than that of a wasp."

CHIGGER (Trombicula irritans Riley)

Florida

F. C. Bishopp (March 15): Chiggers are fairly abundant on the peat lands in the vicinity of Orlando. Definite information as to when they began to appear in the spring was not obtained.

COCKROACHES (Blattidae)

Missouri

L. Haseman (April 24): Cockroaches have been unusually abundant during the past two weeks in homes.

ORIENTAL COCKROACH (Blatta orientalis L.)

South Carolina

F. Sherman (March 27): The Oriental cockroach is observed to be active at Clemson after a period of quiet during the winter.

CLOVER MITE (Eryobia praetiosa Koch)

Nebraska

M. H. Swenk (January 1-April 15): The clover mite was reported invading houses in Dawes County on April 11 and in Lancaster County April 15.

A SAND FLY (Culicoides furens Peey)

Florida

F. C. Bishopp (March 22): A few sand flies are present and annoying man. They are reported to have been active during the warm, still periods throughout the winter.

HORSE

HORSE FLIES (Tabanidae)

Florida

F. C. Bishopp (March 22): Horse flies, Tabanus americanus Forst., began to appear during the last week but are not yet very numerous. T. lineola Fab. is present in small numbers though causing live stock annoyance. T. atratus Fab. is said to be present nearly the year round but never very abundant. An occasional specimen is seen now.

BUFFALO GNATS (Simuliidae)

Mississippi

R. W. Harned (April 22): Buffalo gnats (Eusimulium pecuarum Riley) have been abundant at a number of places. About April 1 specimens were received from Kosciusko with the report that they were causing considerable annoyance in Attala County. On April 4, Inspector Chesley Hines, Yazoo City, sent in specimens and wrote: "They are present in large numbers in the Fugates, Nod, and Big Black River sections of Yazoo County. The gnats first appeared about a week ago but were not in large numbers until the last few days. Three mules have died in this section

since the appearance of the gnats. It is probable that they caused the deaths. I went over into the Delta section of the county for a short distance this afternoon but was unable to find any of these gnats and the planters with whom I talked reported that they had not seen any." On April 5, County Agent C. L. McNeill wired from Canton, Madison County, as follows: "Large numbers of mules dying on account of gnats." On April 13 Inspector F. A. Smith, Senatobia, wrote: "On Tuesday and Wednesday of this week I was in Marks and Lambert, and the buffalo gnats were very abundant and when walking along the streets of those towns one had to keep fighting them constantly. The owners of livestock were using smoke to protect their animals and some mules had feed sacks fastened so as to protect their nostrils. I do not hear of anyone losing any stock from the gnats."

Georgia

Dr. J. M. Sutton (April 19): A herd of 200 cows and some horses were all infested with Simulium jenningsi Malloch at Sylvester. There were from 25 to 35 adults in a space the size of a half dollar, causing raw sores on the breasts and under the fore legs.

CATTLE

HORN FLY (Haematobia irritans L.)

Florida

F. C. Bishopp (March 21): The infestation in different herds and in different localities varied widely. From 5 to 75 horn flies per head were found on one well-kept dairy herd. At Jupiter 5 to 200 per head were found. At Pehokee there were 100 to 5,000 per head causing much annoyance March 22. At Miami there were from 50 to 1,500 per head, and at Homestead from 5 to 50.

SHEEP

SHEEP TICK (Melophagus ovinus L.)

Missouri

L. Haseman (April 24): Only a few complaints of the sheep tick have been received during the month.

DOG

BROWN DOG TICK (Rhipicephalus sanguineus Latr.)

Florida

F. C. Bishopp (March 15): There are but few dogs at Orlando infested but some have a good many ticks. At Fort Pierce, West Palm Beach, and Miami infestations are general but many dogs have no ticks and others are only lightly infested. The ticks are said to get more abundant during the summer.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Maryland

J.A. Hyslop (April 22): The first seed tick of the season was observed on a child today.

Florida

F. C. Bishopp (March 22): A few specimens of this tick were found on dogs at Miami and also at Sarasota March 24.

POULTRY

PIGEON HIPPOBOSCID (Lynchia maura Bigot)

Florida

F. C. Bishopp and W. W. Yothers (March 18): This pigeon parasite was found in considerable numbers on nearly every bird in a commercial loft at Orlando.

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Florida

F. C. Bishopp (March 15): Sticktight fleas are a pest of some importance in every locality visited and they are said to get worse later in the spring.

H O U S E H O L D A N D S T O R E D -

P R O D U C T I N S E C T S

TERMITES (Reticulitermes spp.)

Ohio

E. W. Mendenhall (March 30): I found a large per cent of Lilium giganteum tunneled by Reticulitermes sp.

Indiana

J.J. Davis (April 26): Termites have been reported destructive to buildings during the past two months from Bentonville, Columbus, Goshen, Indianapolis, LaFayette, South Bend, Tipton, and Vincennes. Mr. Riley observed termites swarming at LaFayette April 24.

Illinois

W. P. Flint (April 16): During the first week of April a number of reports have come in from the central part of the State concerning damage by termites. In most cases, as frequently happens, the attention of the property owners was called to this by the appearance of the winged swarms of insects.

Missouri

L. Haseman (April 24): K. C. Sullivan reports that termites are more abundant and active than usual.

Kansas

J.W. McCulloch (April 22): Injury to dwellings has been reported during the last month from Kansas City, Ottawa, Lindsburg, Manhattan, and Bloom. At Fulton they are giving trouble in a lumber yard. At Manhattan damage has occurred in a hotel and

in a store building. (April 23): Flights occurred at Clayton and Kansas City on April 23 and a big flight at Manhattan occurred April 22.

Mississippi R. W. Harned (April 24): Complaints have been received from many points during the past two months in regard to termites. It is probable that Reticulitermes flavipes Kol. is the species causing the trouble at all places as several lots sent to Washington for determination proved to be of this species.

Texas F. L. Thomas (April 25): Termites were swarming at College Station April 23. Two complaints from Houston and one from Bay City.

California Monthly News Letter, Los Angeles County Horticultural Comm., Vol. 11, No. 4, April 15: Mr Flynn has several men doing termite work in the public school buildings of Los Angeles.

ANTS (Formicidae)

South Carolina F. Sherman (March 27): Ants have been reported as troublesome in houses, gardens, etc., twice recently.

Indiana J. J. Davis (April 26): During April we received reports of abundance of ants in lawns from Indianapolis, Muncie, and Winchester.

Nebraska M. H. Swenk (January 1-April 15): Ants of various kinds were complained of during the period covered by this report. Correspondents in Douglas, Lancaster, Gage, and Thayer Counties reported house or lunchroom infestations.

A CARPENTER ANT (Camponotus castaneus americanus Mayr)

Mississippi R. W. Harned (April 22): Mr. J. P. Kislanko recently sent to this office some ants that have been identified by M. R. Smith as Camponotus castaneus americanus. These ants are of special interest because they are infected with a peculiar fungus known as Cordyceps unilateralis. Mr. Kislanko found several hundreds of these diseased ants attached to the lower side of twigs of a hickory tree about 4 miles from Wiggins. He stated that the live ants of this species were busily attending a soft scale on the hickory.

A CARPENTER ANT (Camponotus caryae rasilis Wheeler)

Mississippi R. W. Harned (April 22): R. P. Colmer sent in specimens of ants identified by M. R. Smith as Camponotus caryae rasilis which he found emerging from the porch of a house near Moss Point. M. L. Grimes sent in the same species from Meridian with the remark that the owner of the house from which the ants were taken claimed that they were nesting in the woodwork of the house.

FLORIDA HARVESTING ANT (Pogonomyrmex badius Latr.)

Mississippi

R. W. Harned (April 22): A correspondent at Stringer writes as follows: "One of my farmers has a sandy field badly infested with big red ant beds. He says that they cut his little cotton and corn down for 15 or 20 feet away around each bed." No specimens were submitted with the letter but Dr. Smith is quite certain that the species is the Florida harvesting ant. This ant is a close relative of the common agricultural or so-called harvesting ants of our Southwestern States.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

South Carolina

M.H. Brunson (April 11): The Argentine ant has been discovered at Ganney. This is a new infestation. (Identification by Dr. M. R. Smith, A & M. College.)

FIRE ANT (Solenopsis geminata Fab.)

Mississippi

R. W. Harned (April 22): Mr. W. L. Gray writes that a lady living at Natchez reported that fire ants had eaten holes in two silk dresses. On account of the large number of nests on the lawn she stated that she was afraid to allow her small children to play alone because of the vicious stinging habit of these ants.

AN ANT (Formica fusca L.)

Nebraska

M. H. Swenk (January 1-April 15): Formica fusca was found invading residences from out-of-door colonies at Lincoln April 6 and at Omaha April 8.

YELLOW ANT (Lasius interjectus Mayr)

Illinois

W. P. Flint (April 16): Somewhat more than the usual number of reports of spring swarms of this ant appearing in basements have been received. In no cases has any injury to food stuffs or the woodwork of buildings been reported.

Nebraska

M. H. Swenk (January 1-April 15): This ant was found working in decayed wood under the cement floor of a house basement on February 25.

Kansas

J. W. McColloch (April 15): This ant is very abundant in the basement of a house at White Water.

BLACK HOUSE ANT (Monomorium minutum Mayr)

South Carolina

M. H. Brunson (April 1): Numerous complaints have been received where this pest was troublesome in houses.

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Indiana J. J. Davis (April 26): The cigarette beetle was received from Mt. Vernon where it was reported infesting overstuffed furniture.

Illinois W. F. Flint (April 16): Several reports of damage to upholstered furniture by these insects, together with specimens, have come in. For the last two or three years we have received more reports of damage to upholstered furniture by the cigarette beetle than by the clothes moth.

A SILVERFISH (Lepisma domestica Pack.)

Arizona C. L. Barnes (March 19): This insect is very abundant in bookcases and filing cabinet in a private home in Phoenix. It was also found in large numbers around fireplaces and on the walls.

HOUSE CENTIPEDE (Scutigera forceps Raf.)

Indiana J. J. Davis (April 26): The house centipede was reported abundant in homes during the past month at Indianapolis, Montezuma, and Peru.

Nebraska M. H. Swenk (January 1-April 15): The house centipede was reported as a nuisance in the house of a lady living in Washington County, under date of April 5.

WEEVILS (Calendra spp.)

Nebraska M. H. Swenk (January 1-April 15): Stored wheat has been reported infested with Calendra granaria L. and C. oryzae L. in several instances during the period covered by this report.

YELLOW MEAL WORM (Tenebrio molitor L.)

Nebraska M. H. Swenk (January 1-April 15): Corn cobs were reported infested with the yellow meal worm by a Pierce County correspondent on February 25 and by a Custer County correspondent on March 1. In both instances the worms crawled from the cobs when they were about to be used for fuel in the warm buildings.

WHITE-MARKED SPIDER BEETLE (Ptinus fur L.)

Iowa C. N. Ainslie (April 9): A farmer near Sioux City was greatly disturbed by finding myriads of these beetles among the cobs after the corn had been shelled. None appears to have been seen in the corn.

BEAN WEEVIL (Mylabris obtectus Say)

Indiana J. J. Davis (April 26): Bean weevils were reported from Benton and Gaston.

Nebraska M. H. Swenk (January 1-April 15): Correspondents reported the infestation of stored beans with the bean weevil during the period here covered.

DRUG-STORE WEEVIL (Sitodrepa panicea L.)

Nebraska M. H. Swenk (January 1-April 15): A Sarpy County correspondent reported that her red pepper was infested with the drug-store weevil.

FOREIGN GRAIN BEETLE (Cathartus advena Waltl.)

Nebraska M.H. Swenk (January 1-April 15): Stored wheat has been reported infested with this weevil in several instances during the period covered by this report.

FLAT GRAIN BEETLE (Cryptolestes pusillus Schon.)

Nebraska M. H. Swenk (January 1-April 15): Stored wheat has been reported infested with this weevil in several instances during the period here covered.

